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ABSTRACT

Manpower training and upgrading programs have negative secondary effects upon regular employees. A review of the literature and empirical research on these negative effects indicated that no model has yet been devised and tested to measure these negative effects. This paper suggests a preliminary model for the evaluation of the disruptive effects of occupational upgrading programs on occupational mobility patterns in a trade union environment. From the proposed model, it was hypothesized that initiation, implementation, and successful administration of occupational upgrading systems: (1) are facilitated by a nonunion environment, (2) require a negotiated approach in a union environment, (3) are better received by a union in both rapidly expanding and rapidly declining industries, (4) are not affected by the vertical and horizontal dimensions of the mobility clusters in the internal labor market but rather by the size regardless of distribution, and (5) require application to all workers in a union environment, not just selected groups. A simple empirical testing of several of the hypotheses proved inconclusive, but results from earlier studies and past experiences are used to suggest policies, policy perspectives, and avenues for further research. (Author/SB)

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NEGATIVE EFFECTS AND OCCUPATIONAL UPGRADING IN A COLLECTIVE BARGAINING ENVIRONMENT

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Research Summary

Negative Effects And Occupational Upgrading In A Collective Bargaining Environment

Manpower training and upgrading programs have negative secondary effects upon regular employees. A review of the literature and empirical work on these negative effects indicates that no model has yet been devised and tested to measure these negative effects. This paper suggests a model as a start toward measurement of negative effects. Five hypotheses are generated using the model. A simple empirical testing of several of the hypotheses proved inconclusive, but results from earlier studies and past experiences are used to suggest policies, policy perspectives, and avenues for further research.

Negative Effects And Occupational Upgrading In A Collective Bargaining Environment

by

Randyl D. Elkin*

Introduction

Utilizing aspects of the theory of the internal labor market[1/] this paper builds a model of occupational upgrading in a collective bargaining environment. Five hypotheses are generated from the model concerning the negative effects for occupational upgrading programs in general and for on-the-job training (OJT) programs in particular. These five hypotheses are tested with data from Iowa's Statewide OJT Program for 1971 and with results from other studies of occupational upgrading.

Recent controversy between academic analysts and trade unionists over the existence and extent of job dissatisfaction in the American work place has once again brought attention to the role of trade unions in occupational upgrading in the work place.[2/] Most of the research on unions and upgrading has been done in the apprenticeship field and on union-run programs under national OJT contracts. This study is concerned primarily with the role of the union in an enterprise internal labor market situation which may or may not involve craft workers in the exclusive bargaining unit. Further, the type of upgrading program envisioned is an MDTA institutional or OJT program likely to be administered by a statewide agency rather than on a national contract basis.

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Glen Cain and Robinson Hollister observed in a 1969 paper on the methodology of evaluating social action programs:

> "Concerning training and education programs, in particular, two types of effects that have received scant investigation are 'negative effects' and those which affect the structure of communities."3/

Two of the "negative effects" suggested by Cain and Hollister are of concern here:

> "(a) Programs placing the hard-core poor into jobs have had, according to some reports, disruptive effects in the plant--both because of the behavior of the trainee--participants (e.g., disciplinary problems and high rates of absenteeism) and because of the special treatment which the participants received.
> (b) Programs which augment the supply of workers in a particular occupation will have the effect of exerting downward pressure on the wages of existing workers in that occupation. It is worth noting that the workers earning high wages are likely to belong to unions which will block these programs in their field (e.g., the building trades), but that low wage workers (like hospital workers) have little or no power to protect their economic interests."4/

At the theoretical level, Hamermesh has constructed a simulation model of the displacement effects related to MDTA OJT and institutional training of the disadvantaged.5/ In the derivation of the model, disruption effects are mentioned. The model itself, however, does not explicitly treat the disruptive effects. Hamermesh assumes a fixed level of output, a firm subsidy based on a level required to get a set number of disadvantaged hired as trainees (not based on disadvantaged personel training potential attributes) and allows for substitution between capital, subsidized and nonsubsidized employees and training. From his model, Hamermesh concludes:

> "... only the quit rate appears to have any effect on the percentage displacement caused by the training subsidies. ... firms in which the quit rate is higher will be ones in which the displacement effect is less. ... unless the occupations in which the subsidies are provided are ones in which shortages exist, policy makers face a fundamental trade-off between job creation for disadvantaged workers and the displacement of subsidized workers."6/

Hamermesh's policy prescription is that "subsidies might be concentrated in manufacturing and some service industries rather than in other sectors if such a concentration is politically feasible."7/ He also advocates limiting subsidies in times of high unemployment to avoid displacement.

In his 1972 article, Hamermesh suggests:

> "In general, upgrading would be concentrated on training low skilled workers for more highly skilled jobs in which shortages exist. Such a strategy would, thus, avoid the displacement likely to arise from training currently unemployed workers for entry-level vacancies."8/

Hamermesh's models and policy suggestions have created negative effects of their own. Comments by Cain and Thurow in the Borus volume9/ attack the assumptions of the model, the absence of actual empirical testing and the practicality of the policy prescriptions. Cain gets off a second volley in the most recent issue of the Industrial and Labor Relations Review.10/

The theory of negative effects developed in the present paper suggests that the Hamermesh policy prescriptions may generate large negative effects of their own. Thurow covers one aspect of the negative effects associated with the training of low skilled workers for high skilled jobs as follows:

> "I suspect that this categorical imperative runs against the grain of any internal labor market. The employee teamwork ... would be nonexistent. Even more importantly, the informal on-the-job training that takes place among employees would vanish as new workers were jumped over old workers."11/

The internal labor market disruptive effects would likely be even more important if training were to be concentrated in the rapidly unionizing government services sector and the highly organized manufacturing sector. We shall return later to these considerations in the policy prescriptions section.

On the empirical side, perhaps the most extensive and sophisticated analysis to date of MDTA training, Hardin and Borus' Economic Benefits and Costs of Retraining Courses in Michigan, treated training, trainee and the state of the external labor market in depth.12/ The nature of the regular work force and the internal labor market, however, were not covered by the Hardin-Borus analysis. Recently, the Manpower Administration has begun to study trade union attitudes toward occupational upgrading programs and internal mobility paths in the internal labor market. But as yet it has not put the two together in a study to my knowledge.13/

To end this brief review of earlier studies, we cite Borus and Buntz on the treatment of secondary effects in the evaluation of manpower programs as follows:

> "The problem is that at present there is no theoretical basis for determining who, other than program participants, will be affected by manpower programs. Nor has any operational methodology been developed to measure secondary effects."14/

This paper suggests a preliminary model for the evaluation of the disruptive effects of occupational upgrading programs on occupational mobility patterns in a trade union environment.

The Model

Utilizing the Doeringer and Piore construction, an internal labor market is an "administrative unit, such as a manufacturing plant, within which the pricing and allocation of labor is governed by a set of administrative rules and procedures."[15/] The market is generated by skill specificity which makes occupational progression by on-the-job training efficient. Past practice and precedent give rise to a set of rules of the shop termed "customary law." Customary law is fostered by stability and homogeneity in the work force. It is partially codified in collective bargaining agreements, company or governmental personnel policies and relevant grievance arbitration awards.

Such a market has value to employees in the form of a reduction in the uncertainty of a future income stream (job security) and in job equity through a system of industrial jurisprudence. Employers benefit from such a structure due to cost reductions associated with reduced turnover and technical efficiencies in recruiting, screening and training.

In this model, "the local union becomes a vehicle for the expression and enforcement of customary law."[16/] The results of the union presence include "raising the cost to management of changing customary procedures, ... codification of unwritten custom into collective bargaining agreement," and the provision of "an organized channel for deliberate change in customary practices through collective bargaining."[17/]

The internal labor market is composed of a group of more or less closed mobility clusters consisting of an entry port(s), a progression of job classifications linked by related skills or common function and an exit port(s).

Internal mobility depends largely upon ability, seniority and merit operating through layoff and promotion clauses. Two sources highlight the importance of this last premise.

> "Most employers appear to have adjusted to seniority as the criterion governing the ordering of layoffs and recalls, particularly if they have secured contract language giving assurance that they will have qualified personnel manning the available jobs at all times."18/

Study of promotion clauses in contracts covering 1,000 or more workers indicates a wide variety of promotion systems. The provisions vary in prevalence and content by the relative weighting placed on seniority and ability factors:

> "Ninety percent of the manufacturing agreements included promotion clauses, compared with 43 percent in nonmanufacturing."19/

> "Of 1,201 agreements containing promotion details, 93 percent (1,112), covering 95 percent of the workers, indicated that seniority would be considered in making promotions ..., but more often than not in combination with other factors, such as skill, merit, aptitude ...20/

> "Nine-tenths of the agreements having promotion, provisions, covering the same proportion of workers, stipulated factors in addition to seniority would be considered .... The nonseniority factors most frequently encountered--skill and ability--occurred in about three-fourths of the agreements."21/

Regardless of the form, "one can find a broad consensus on the values of promotion from within as a general rule."22/

Given the mobility cluster and the institutionalized rules for mobility, the model becomes an intertemporal one. The employer sizes up prospective employees and hires on the basis of expected benefit (output) and cost (recruiting, screening and training) streams. The internal labor market

also provides the employee, once on the job, with an expected future income stream deriving from the wage rates attached to the jobs in the mobility cluster and the expected length of tenure on each job before further promotion.

$$[1] \quad Y_E = \sum_{t=0}^{h} \frac{Y_t}{(1+r)^t}$$

Where,

Y_E = present discounted value of the expected income stream;

Y_t = expected income at time t;

r = discount rate;

and the income expectations stretch from the present (t=0) through to the horizon (t=h) at which time the employee quits, retires or otherwise terminates employment with the employer.

The income in any time period depends upon the wage rate (W_{jt}) and time on the job (N_{jt}) for each job held in that time period:

$$[2] \quad Y_t = \sum_{j=0}^{e} W_{jt} N_{jt}$$

Where j indicates the job held in the cluster and includes all jobs from the entry level (j=0) through the exit job (j=e).

By substitution into [1],

$$[3] \quad Y_E = \sum_{t=0}^{h} \sum_{j=0}^{e} \frac{W_{jt} N_{jt}}{(1+r)^t}.$$

The wage rate for any occupation depends mainly upon the type of job. In a rate range system, it will often depend partly upon tenure on the job (e.g., progression from the bottom of a rate range to the midpoint) and upon merit (e.g., progression from the midpoint to the maximum). On incentive pay jobs, the wage rate is a function of the guaranteed base rate and output. In some cases, it can also be a function of the work group directly (group incentive) or indirectly (efficiency of those lower in the production chain feeding their output into those higher in the chain). Merit determinations may be affected by group behavior and morale as well. Thus, assuming a linear approximation:

$$[4] \quad W_{jt} = W_{jo} + W_{j1}T_j + W_{j2}M_j + W_{j3}Q_j + W_{j4}G,$$

Where,

W_{jo} = the rate range minimum or incentive base rate, where applicable, for job j;

$W_{j1}T_j$ = the wage increment for tenure (T) and job j, where applicable;

$W_{j2}M_j$ = the wage increment for merit (M) in job j, where applicable;

$W_{j3}Q_j$ = the wage increment for incentive payments for output over the base rate, where applicable;

$W_{j4}G$ = the wage increment or decrement due to direct or indirect effects of the group (G) on output and/or merit and/or morale.

The time spent on any job in the cluster depends upon the promotability of the employee and the opportunity for promotion. The BLS

study cited above points out the importance of seniority (S_t) and ability (A_t) in advancement. The opportunity to advance depends directly upon the frequency of vacancies in jobs above the one held in the cluster. This is determined largely by aggregate demand (D_t) and retirement (R_t). It also depends upon the vacancies below the current job held in the cluster and upon the persons in jobs lower in the cluster (cluster variable C_t). Promotion might be held up while the employee finishes training those lower in the cluster. This might include training persons for jobs they already fill, training new trainees in jobs to be filled, or training a replacement for himself.

Therefore, again assuming linearity,

$$[5] \quad N_{jt} = N_1 S_t + N_2 A_t + N_3 D_t + N_4 R_t + N_5 C_t.$$

Finally, there is a probability which attaches to any income at time t depending upon whether the worker will be on the job or laid off. As noted by Davey above, the primary determinant of layoff ordering is seniority.

Therefore,

$$[6] \quad P_t = P_t(S_t)$$

where P_t is the probability of being at work at time t.

Making the proper substitutions in [3], the expected future income stream is:

$$Y_E = \sum_{t=0}^{h} P_t(S_t) \sum_{j=0}^{e} \frac{(W_{j0} + W_{j1}T_j + W_{j2}M_j + W_{j3}Q_j + W_{j4}G)}{(1+r)^t}$$

$$\underline{(N_1 S_t + N_2 A_t + N_3 D_t + N_4 R_t + N_5 C_t)}.$$

Impact of Manpower Programs

The success of occupational upgrading programs viewed in this context depends upon the extent to which the programs place and advance trainees without changing the income distribution expected by the current work force. Undisturbed by manpower programs, progression within the mobility clusters develops according to customary law, both codified and informal. Entrants start at the bottom and work their way through the cluster. The impact of the manpower program will depend upon the type of program. We examine two types of programs: OJT and institutional training.

On-the-job training (OJT) places a trainee on the job to learn skills he would not otherwise be hired to learn. Theoretically, the trainee would not normally be hired because the employer views the trainee's wage, recruiting, screening and training costs to outweigh the value of his output stream. A subsidy is extended to the employer to reimburse him for the extra costs of hiring the disadvantaged trainee.

As noted earlier, Cain and Hollister have pointed out that the costs of these programs are probably understated. Output is reduced by the regular work force not only from the opportunity cost of the foregone output of the instructor, but also due to the output loss of disgruntled regular workers. The negative effects of OJT programs suggested by Cain and Hollister include both equity and income effects. Both can be shown to be manifest in the effective expected income stream constructed above.

The first effect is an equity effect. After the fashion of Becker's discrimination analysis, favoritism as well as discrimination decreases the effective income of the regular work force. Management toleration of

trainee absenteeism, tardiness and insubordination that would result in disciplinary action and possibly discharge for regular employees sets a double standard.

Although numerous "popular" reportings of this dual standards problem could be cited, one scientific study of this phenomenon can be mentioned appropriately here. Forty-nine hard-core unemployed Negro males were placed in a predominantly white utility company. Managers were requested to "go easy, but not too easy" on the trainees. A subjective expected utility (SEU) index which weights the utility of program effects by the probability of their occurrence was derived for management, foremen, the rank and file and the union. Changes in SEU scores between pre- and post- program measurements indicated:

> "For the company as a whole there was a drop in overall SEU score, caused by an increase in negative attitude base. ... Both foremen and rank and file workers shifted negatively in overall SEU, the shift being due to both a decrease in positive scores and an increase in negative scores. The union showed decreases on both positive and negative SEU scores, with the overall SEU score remaining unchanged."23/

It should be noted that the union's initial negative score was 33% more negative than the next highest score to begin with.

Double standards, of course, violate the basic tenet of industrial jurisprudence "that ... policies and procedures governing on-the-job relationships ... apply to all workers covered by the contract in like fashion in like circumstances."24/

Favoritism coupled with discrimination enters the effective income formulation as an "equity" coefficient d: $Y_t = Y_{At}(1+d)$, where d is

negative. Working with management favorites who are "different" in terms of behavior and/or race decreases the utility and status of the actual paid income, i.e., decreases the "effective" income stream.

There are many potential direct income effects. These come about through reduced output, changes in relative seniority and/or changes in promotability.

Output (Q_t) may be reduced due to a number of effects after the introduction of OJT. These effects are more important where wages are a function of output such as individual or group incentive pay. Here output declines may be occasioned by OJT disruptions lower or higher in the production process.

Where workers higher up in the production process must use the output of trainees lower in the chain, output declines for regular employees may be caused by inferior trainee output(craftsmanship) and lower than normal output (less input for regular pieceworkers). Both of these effects will extend over longer periods of training time for disadvantaged compared to regular trainees.[25/] Morale (G) problems may diminish individual and group effort in both incentive and nonincentive jobs. In incentive work, this has a direct wage impact. In nonincentive work, it may have a long-run impact via the promotability of employees in the eyes of management.

Finally, to the extent that the market forces operate, increasing the supply of workers will have some negative wage effects in terms of reduced negotiated wage increases (W_{ji}) and the cutting of overtime hours (N_{jt}).

Although OJT programs do not usually involve seniority changes to the detriment of the established work force in the form of reduced seniority,

there may be "dilution" of seniority in several ways. There may be fear that favoritism toward OJT employees will be expanded to seniority (S_t) in time of layoffs and promotions. This is particularly true where seniority systems have been discriminatory in the past. Actual changes in the job security of seniority have been court-ordered since the Supreme Court decision in Griggs v. Duke Power Company.[26/] Plant-wide seniority, coupled with upgrading programs, involves a direct diminution of the seniority rights of the regular work force. Affirmative action programs may have similar effects.

Promotability (S_t) and seniority $P_t(S_t)$ are inextricably tied together. The extensive role of seniority as a primary, if not sole, factor in promotability has been established above. The diminution of seniority rights directly decreases the promotability of the established work force and lengthens the time spent by some employees at lower wage jobs in the mobility cluster. Preferential promotion of the disadvantaged and/or minority members decreases the number of vacancies for which those higher in the mobility cluster can expect to compete effectively. This leapfrogging, whether actual or feared by regular employees, decreases the expected income stream of the work force.

Even when there is no fear of preferential promotion, the nature of occupational mobility through OJT can decrease the promotability of some members of the mobility cluster. An established member of the work force may be held back from promotion to train slower-learning OJT trainees. Or he may be held back because OJT persons are not ready to progress to fill the vacancy created if he leaves.

All these negative effects of OJT programs suggest a decrease in effective expected future income to the established work force. Most of

these apply to institutional training as well, although the magnitude of the effects is probably smaller. Not all skill can be gained in the classroom. Some of it must be learned on the job. Other effects occur if the institutional training does not prepare the trainee as well as might be expected of a regular new recruit. Race and demographic characteristics may also distinguish the new addition to the work group and give rise to equity effects.

Assume that regular employees are expected effective income maximizers given the nature of the enterprise internal labor market. Recall that the local union becomes a vehicle for the expression and enforcement of customary law which raises the cost to management of changing customary procedures, but which also provides an organized channel for deliberate change in customary practices through collective bargaining. Although the union may have organizational goals of its own, it must be responsive to its membership's needs. Protection against decreases in the expected effective income of the membership is clearly one of these needs.

Hypotheses Generated Using the Model

A number of hypotheses concerning occupational upgrading in a collective bargaining environment are generated by the model.

Initiation, implementation and successful administration of occupational upgrading systems:

H1: Are facilitated by a nonunion environment.

Occupational upgrading programs for the disadvantaged affect the expected future effective income stream of the regularly employed labor force negatively. These reductions in income generate illwill. Employee

dissatisfaction can better be expressed through the union whose rationale for existence is to serve the interests of its membership. Employee dissatisfaction is probably less in nonunion firms because customary law is less likely to be codified. Further, there is greater uncertainty concerning ability and seniority effects in layoffs and promotions. Finally, without a vehicle for effective expression, the dissatisfaction of the regular work force is muted.

H2: Require a negotiated approach in a union environment.

Unilateral imposition of occupational upgrading programs in a union environment must, under this model, put the union in a defensive position. Advance notice, consultation and cooperation can reduce the expected income disturbances. Joint efforts could reduce the size of the equity coefficient d by dispelling fears of or limiting the inequities of favoritism in discipline and promotion. This could be accomplished in part with a full explanation of the program (information) and/or by design under joint consultation to minimize negative effects.

H3: Are better received by a union in both rapidly expanding and rapidly declining industries.

Rapid expansion via aggregate demand increases creates more upward mobility in the firm through new jobs and allows overtime wage increases. The negative effects of training programs are more likely to be outweighed or at least reduced by short-run positive income effects through promotion and wage increases. Training programs in declining industries are more likely to be established for the regular work force. These increase employee income expectations by training them to move to jobs not normally filled from within the cluster, or to jobs outside the industry as an alternative to unemployment.

H4: Are not affected by the vertical or horizontal dimensions of the mobility clusters in the internal labor market, but rather by the size regardless of distribution.

The fewer the income expectations which are affected and the smaller the decrease in individual expectations, the smaller will be regular work force dissatisfaction. Thus, the size of mobility clusters becomes important. Small clusters, regardless of vertical or horizontal dimensions, decrease the extent of income expectations changes. Further, the extent to which promotions are based more on seniority as the primary determinant than upon other considerations, the smaller is the expectations disruption. Trainees are less likely to be viewed as competitors for higher paying jobs. The greater the ability component in promotion, the greater is the uncertainty surrounding promotions and income streams and the greater is the fear of competition and favoritism.

H5: Require application to all workers in a union environment, not just selected groups.

The extension of the availability of occupational upgrading programs to all persons in the plant decreases the favoritism effects. It can serve to increase the income expectations of the work force through improved future mobility and job security.

Discussion of the Hypotheses

H1: Initiation, implementation and successful administration of occupational upgrading systems are facilitated by a nonunion environment.

To the author's knowledge, no statistics have been published regarding the number of OJT placements in union and nonunion enterprise labor markets. An E. F. Shelley and Company, Inc. study of a U. S. Department of Labor approved representative sample of twenty training programs in the U. S.

indicated union presence in nine of the programs. This is considerably more than might be expected if a sample were drawn based only upon the degree of unionization of the labor force. One program, Newark Industrial Training Services, providing upgrading services to 13 companies, "found that upgrading efforts were more easily established and were more successful in small, nonunion companies than in large, highly-unionized plants with rigid mobility structures."[27/] In virtually all of the sample program profiles involving unions, either the program was open to all employees or pressure was exerted by the union to open the program up.

The first hypothesis remains largely untested and open to debate.

A finding affirming the hypothesis would suggest an emphasis on training programs for nonunion environments. Such a prescription without more information on the impact of unions on upgrading is unwarranted. Certainly equity and legal considerations would argue against such an approach. Further, the theory does not suggest that there are negative effects only in a union environment. It only hypothesizes somewhat larger effects and more effective expression of them in a union environment.

H2: Initiation, implementation and successful administration of occupational upgrading systems require a negotiated approach in a union environment.

All but a few diehard management rights advocates would probably agree with the above hypothesis. One would suspect that training and retraining provisions have been extensively bargained for in the U. S. Such expectations are not well supported by available statistics. A BLS study of training and retraining provisions in major collective bargaining agreements effective in 1966, 1967 and later showed "Fewer than 20 percent of the 1,823 major collective bargaining agreements studied contained training or retraining

provisions...."[28/] This is undoubtedly an understatement of the true magnitude of provisions since the study excluded apprenticeship provisions, short-term on-the-job learning and informal agreements. The emphasis on manpower training in the intervening years has most certainly increased coverage greatly. Nonetheless, collective bargaining coverage is less than one might initially expect under the premise that joint determination is preferable.

The concentration of the bargained provisions lends support to the hypothesis however.

> "Clauses were concentrated in six industries, each of which accounted for 20 provisions or more. These industries included transportation equipment; communications; machinery, except electrical; primary metals; utilities; and food."
>
> "Three unions in particular were parties to significant numbers of negotiated training and retraining provisions: The Steelworkers (47), Auto Workers (40), and the Brotherhood of Electrical Workers (27)."[29/]

In industries characterized by enterprise internal labor markets, unions and management have tended to codify training and retraining customary law.

Including unions in the preparation and implementation of upgrading programs increases the information flow about the program. This can decrease the equity loss (d) to the regular work force. Increased use of ongoing joint committees to monitor programs and foresee training problems is suggested by the analysis.

> H3: Initiation, implementation and successful administration of occupational upgrading systems are better received by a union in both rapidly expanding and rapidly declining industries.

The Armour Automation Fund serves as a classic example of the latter phenomenon. Comments by union and management personnel regarding upgrading and the state of the business cycle suggest support for the hypothesis as well. A seminar for union and management representatives on upward mobility for the underemployed worker resulted in a finding that, "The participants specified that upgrading or other worker advancement efforts would be impossible in a contracting national economy."30/

> "There is no sense kidding ourselves. If you engage in training and all you can guarantee is that the guy is going to be out collecting unemployment, your ability to motivate people becomes less and less a possible one. (The threat of ongoing unemployment) creates antagonism toward new guys coming in and ... works against on-the-job training opportunities for new employees."31/

The BLS study found that training clauses were concentrated in "industries which have experienced continual technological development ..."32/

> H4: Initiation, implementation and administration of occupational upgrading systems are not affected by the vertical or horizontal dimensions of the mobility clusters in the internal labor market, but rather by the size regardless of distribution.

A survey of the literature and discussions with industrial engineers at Iowa State indicate little work has been done on mobility patterns within firms by industry. Data does exist on the extent of seniority in provisions regarding training and promotion. Opinions of union leaders on eligibility for training are also available. Some representative examples follow:

> "Union representatives strictly adhered to the principles of trainee selection on the basis of seniority. First priority must be given to older union members."33/

> "Other criteria for a Union supported program would include: 1) selection of trainees by seniority and other impartial methods; (all of our training programs led to the conclusion that none of the ordinary factors, i.e., age, experience, education, etc., can predict success);"34/

> "The most prevalent limitation on management's right to choose trainees, and also most sweeping, substituted seniority for employer discretion. From the traditional union viewpoint, seniority represented the fairest selection procedure, one designed to eliminate both errors in judgement and possible favoritism."35/

The BLS study concerning determinants of promotion is also applicable. The quotations mentioned earlier establish the importance of seniority as a factor in promotion. Twenty-three percent of the workers covered by major collective bargaining agreements were under contracts with seniority as the primary determinant in promotion. Less than five percent were covered by contracts where seniority was not a factor.36/

Training programs which encourage promotion based upon ability where customary law dictates seniority will incur large negative effects. On the other hand, entry-level training programs providing for seniority promotion in industries with strong seniority-in-promotion clauses will cause smaller negative effects.

> H5: Initiation, implementation and administration of occupational upgrading systems require application to all workers in a union environment, not just selected groups.

This hypothesis is supported to a large extent by material in hypothesis 4. Additional material highlights the problem as viewed by the union.

> "Another problem caused by well meaning 'experts' occurs in the New Careers program. There is 'leapfrogging' over the long-term employees at entry-level by an outsider who has been trained for an upper level job from the ranks of the unemployed. Further, new Associate Degree programs from the junior colleges train people, usually young, ambitious, who come in just above the entry-level of skilled people who have been in the job for many years. When this is coupled with the lower level employee with long experience but no credentials who is performing at a higher level, the predicament of the dead-ended worker causes the Union to be less than happy with the training program. Only by the creation of an upward mobility training program, which the Union can control by methods of seniority selection, can there be an equity of opportunity."37/

Drotning and Lipsky conducted "fairly intensive" interviews with 36 union leaders in Western New York having experience with OJT programs and with 15 leaders who had never been involved with manpower training programs.

> "Union leaders generally opposed special treatment (accelerated promotion, exceptions to seniority, and lower work standards) for trainees. The overwhelming preference of trade union officials, both those who had worked with manpower programs and those who had not, was for promotion on the basis of seniority where merit is equal, and for equal work standards."38/

Over half of the experienced union leaders felt that their members would support working with hard-core, disadvantaged black trainees. Less than a third of the inexperienced leaders answered affirmatively. Experienced leaders responded negatively when asked about membership support, indicating that "A main concern was job security."39/ At times the possibility of strong negative effects will cause employers to widen training programs to include their regular employees. Such was the case with minority upgrading projects run by Signal Oil in Houston and by the Transportation Opportunity Program in Los Angeles.40/

One response to the negative effects flowing from dual standards has been a trend toward negotiation of new job descriptions with lower pay and longer probationary periods for trainees. This decreases the favoritism and negative equity effects in the eyes of regular employees.

In conclusion, results from studies of union and management attitudes, collective bargaining provisions and manpower programs indicate the plausibility of utilizing the theory of the internal labor market to analyze the negative effects of occupational upgrading systems in a union environment.

Variables important to the determination of negative effects magnitudes include:

(1) The existence of unionization;

(2) The importance of seniority in promotion and training;

(3) The importance of other factors in promotion and training;

(4) The size of the mobility cluster;

(5) The skill level focus of the training program;

(6) The rate of expansion of aggregate demand; and

(7) The homogeneity of the trainees and work force.

Interestingly enough, from the vantage point of the internal labor market, two of the policy prescriptions made by Hamermesh are exactly opposite what one would suggest to minimize negative training effects. Concentrating subsidies in the highly-unionized manufacturing sector and in the rapidly growing and rapidly unionizing government service industry is likely to create larger negative effects than concentration in non-union industries. Similarly, concentrating training on moving low skilled

workers to more highly-skilled shortage jobs rather than training currently unemployed workers for entry-level vacancies is a type of leapfrogging with large negative effects. Subsidizing training for workers higher in the mobility clusters to move to skill shortage occupations is suggested. Training the disadvantaged for entry-level jobs would be a concommitant policy prescription.

An Attempted Test and Research Suggestions

An attempt to add empirical support to the paper via an original empirical test of several of the hypotheses proved less than satisfactory. Using data published for Iowa's statewide OJT program for 1971, occupational data was transformed from DOT occupational classifications to approximate industry classifications. This was done to take advantage of industry data on variables for which occupational data do not exist. Trainees who were employed in training-related jobs at the time of the six month follow-up were termed "successes." Those trainees in non-training related employment, unemployed and not in the labor force were classified as "failures." For each industry the success ratio was computed:

$$R = \frac{\text{Number of successes}}{\text{Successes + failures}}$$ [41/]

National and regional data for the degree of unionization (UN) measured by the percentage of the industry work force unionized was collected. National data by industry on the percentage of workers covered by major collective bargaining agreements under contracts with seniority as the primary factor in promotion (SEN) was available. Iowa data on the percentage employment expansion (EE) from January 1971 to January 1972 was also available. The following model of primary and interaction effects was estimated:

$$R = a_0 + a_1UN + a_2EE + a_3UN \cdot SEN + a_4UN \cdot EE.$$

The result:

$$R = 76 + 0.4UN + 0.8EE - 0.02UN \cdot SEN - 0.07UN \cdot EE$$

$$(10.9)\ (0.97)\ (0.39)\ (-1.62)\ (-0.72)$$

$$R^2 = 0.25 \qquad F = 0.69$$

The numbers in the parentheses are t values.

Neither the coefficients nor the equation is statistically different from zero at a respectable level of significance.

Hypothesis One would have suggested a negative a_1 on the degree of unionization. Employment expansion should have a positive impact. Hypothesis Four predicts a positive sign for the degree of unionization-seniority interaction effect. Finally, Hypothesis Three would predict a positive interaction effect for unionism and employment expansion.

The signs on the variates mean little since none are statistically significantly different from zero. However, the results of this one test do not support the use of the internal labor market theory for analysis of negative effects.

Nevertheless, the results of the regression do not reflect negatively on the model for several reasons:

(1) Converting DOT data to SIC comparable data introduces great error;

(2) Important trainee demographic and occupational characteristics such as age, education, race, sex, etc. were left out of the regression;

(3) The rule for success and failure allows error since trainees clearly leave training-related jobs for many reasons other than peer pressure;

(4) National data may be erroneous for Iowa due to differences in the industrial distribution of the work force.

Future research should include, in my view:

(1) Testing this or a similar model with primary data;

(2) Reformulating the model to include income as the dependent variable for trainees and regular employees in order to quantify negative effects;

(3) Testing the model with extensive data for a small number of firms;

(4) Utilizing results of the models to suggest ways to minimize negative effects or to ascertain trade-offs between negative and positive effects in the design of occupational upgrading programs.

Footnotes

1) Peter B. Doeringer and Michael J. Piore, Internal Labor Markets and Manpower Analysis (Lexington, Massachusetts: D. C. Heath and Company, 1971).

2) For opposing viewpoints, contrast the position taken in Work in America, Report of a Sepcial Task Force to the Secretary of Health Education and Welfare, December, 1972, also published in 1973 by MIT Press, Cambridge, Mass., with those of writers in the February, 1973 issue of the AFL-CIO Federationist, Vol. 80, No. 2.

3) Glen Cain and Robinson Hollister, "The Methodology of Evaluating Social Action Programs," Discussion Papers, Institute for Research on Poverty, University of Wisconsin, 1969, pp. 33-34. The quote also appears in "Evaluating Manpower Programs for the Disadvantaged," in Gerald G. Somers and W. D. Wood, eds., Cost-Benefit Analysis of Manpower Policies (Kingston, Ontario: Industrial Relations Centre, 1969), pp. 141-142.

4) Ibid., Cain and Hollister, p. 34, or in Somers and Wood, p. 141.

5) Daniel S. Hamermesh, "Jobs for Disadvantaged Workers and the Displacement Problem," Economic Aspects of Manpower Training Programs (Lexington, Mass.: Heath Lexington Books, 1971), Ch. 2, pp. 11-42. For a shorter version see Daniel S. Hamermesh, "The Secondary Effects of Manpower Programs," in Michael E. Borus, ed., Evaluating the Impact of Manpower Programs (Lexington, Mass.: Lexington Books, 1972), pp. 231-244.

6) Ibid., p. 36.

7) Ibid., p. 38.

8) Borus, op. cit., p. 237.

9) Glen G. Cain, "Secondary Labor Market Effects of Manpower Programs," in Borus, op. cit., pp. 245-251, and Lester C. Thurow, "Secondary Labor Market Effects of Manpower Programs: Comment," in Borus, op. cit., pp. 253-256.

10) Glen G. Cain, Book Review of Economic Aspects of Manpower Training Programs by Daniel S. Hamermesh, Industrial and Labor Relations Review, Vol. 26, No. 3 (April, 1973), pp. 1038-1040.

11) Thurow, op. cit., p. 254.

12) Einar Hardin and Michael Borus, Economic Benefits and Costs of Retraining Courses in Michigan, School of Labor and Industrial Relations, Michigan State University, December, 1969.

13) For trade union attitudes, see John Clarke, Upward Mobility for the Underemployed Worker, Humanic Designs Corporation, June 11, 1971. See also Arthur W. Kirsch and Donald D. Cooke, Upgrading the Work Force: Problems and Possibilities, E. F. Shelley and Company, Inc., January, 1971. On internal mobility patterns, the Manpower Administration has given grants on "Development of Upgrade Models in Private Industry" and "In-Plant Upgrading and Mobility Patterns." Abstracts of these appear on pages 35 and 36 of Manpower Research and Development Projects, 1972 Edition, Manpower Administration, U. S. Department of Labor. Neither mentions the role of trade unionism.

14) Michael E. Borus and Charles G. Buntz, "Problems and Issues in the Evaluation of Manpower Programs," Industrial and Labor Relations Review, Vol. 25, No. 2 (January, 1972), p. 243.

15) Doeringer and Piore, op. cit., pp. 1-2.

16) Ibid., p. 35.

17) Ibid., pp. 35-36.

18) Harold W. Davey, Contemporary Collective Bargaining, 3rd. ed., (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972), pp. 231-232.

19) Winston L. Tillery and William V. Deutermann, Jr., Seniority in Promotion and Transfer Provisions, Bureau of Labor Statistics Bulletin No. 1425-11 (Washington, D.C.: U. S. Government Printing Office, March, 1970), p. 3.

20) Ibid., p. 5.

21) Ibid., p. 7.

22) Davey, op. cit., p. 233.

23) Hjalmar Rosen, Work Adjustment of the Hard-core Unemployed, Final Report to the Manpower Administration, 1969, pp. 100-101.

24) Davey, op. cit., pp. 6-7. For further comments on the discipline problems of double standards and their treatment in grievance arbitration, see pages 222-227.

25) For example, the author once worked in a factory where the output of "slat stringers" on incentive pay could be slowed down considerably if punch press operators cutting slats cut slightly the wrong size. Slat stringers were forced to take the hourly rate when slats couldn't be cut quickly enough to keep up with the stringers.

26) Griggs v. Duke Power Co., 401 U.S. 424 (1971).

27) E. F. Shelley and Company, Inc., Upgrading the Work Force (New York: E. F. Shelley and Company, Inc., 1971), p. 125.

28) U.S. Department of Labor, Bureau of Labor Statistics, Training and Retraining Provisions, Bulletin No. 1425-7 (Washington, D.C.: U.S. Government Printing Office, 1969), p. 2.

29) Ibid., p. 2.

30) Humanic Designs Corporation, Upward Mobility for the Underemployed Worker (Manhasset, New York: Humanic Designs Corporations, 1971), p. iv.

31) Statement by Paul Jennings, President of the International Union of Electrical, Radio and Machine Workers, AFL-CIO, Ibid., p. 5.

32) USDL, op. cit., p. 2.

33) Humanic Designs Corporation, op. cit., p. iv.

34) Jerry Wurf, International President of the American Federation of State, County and Municipal Employees, AFL-CIO, Statement before the House Subcommittee on Labor during hearings on the 1970 Amendments to the Fair Labor Standards Act, ibid., Appendix A, p. 6.

35) USDL, op. cit., p. 18.

36) Tillery and Deutermann, Jr., op. cit., p. 37.

37) Jerry Wurf, op. cit., p. 9.

38) John Drotning and David B. Lipsky, "How Union Leaders View Job Training Programs," Monthly Labor Review (April, 1971), p. 65.

39) Ibid., p. 65.

40) E. F. Shelley and Company, Inc., op. cit., pp. 140-143, 150-152.

41) In response to negative effects, the regular work force may make it so unpleasant for trainees that they exit the program. Rosen conducted interviews with stayers and leavers in his study:

> "... relations with other workers seemed to be central to job satisfaction. Five of the stays and two of the leaves reported that co-workers were friendly and easy to get along with, while four of the leaves and two of the stays mentioned difficulties with fellow workers as a major shortcoming of the job." (Rosen, p. 141).

Therefore, low success ratios were expected to be a manifestation of large negative effects on the regular work force.